



THE I-880 STRATEGIC PLAN

**INVESTING
IN SOLUTIONS
FOR THE
FUTURE**

**DECEMBER 20, 1999
I-880 STEERING COMMITTEE**

APPROVED

**JANUARY 20, 2000
ALAMEDA COUNTY CMA BOARD**



ACKNOWLEDGMENTS

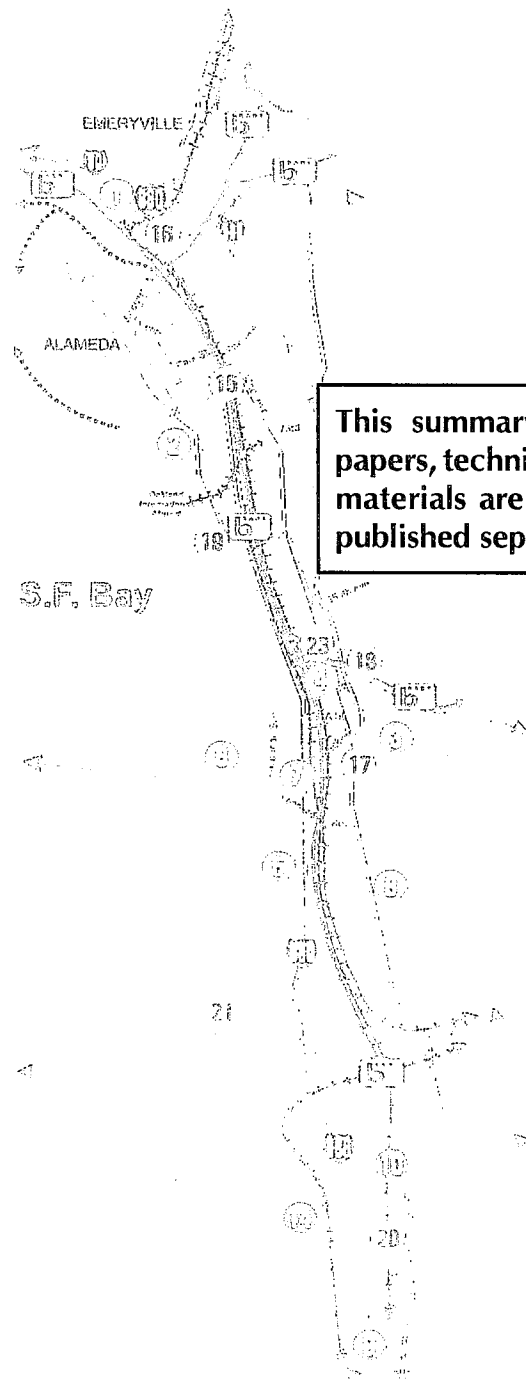
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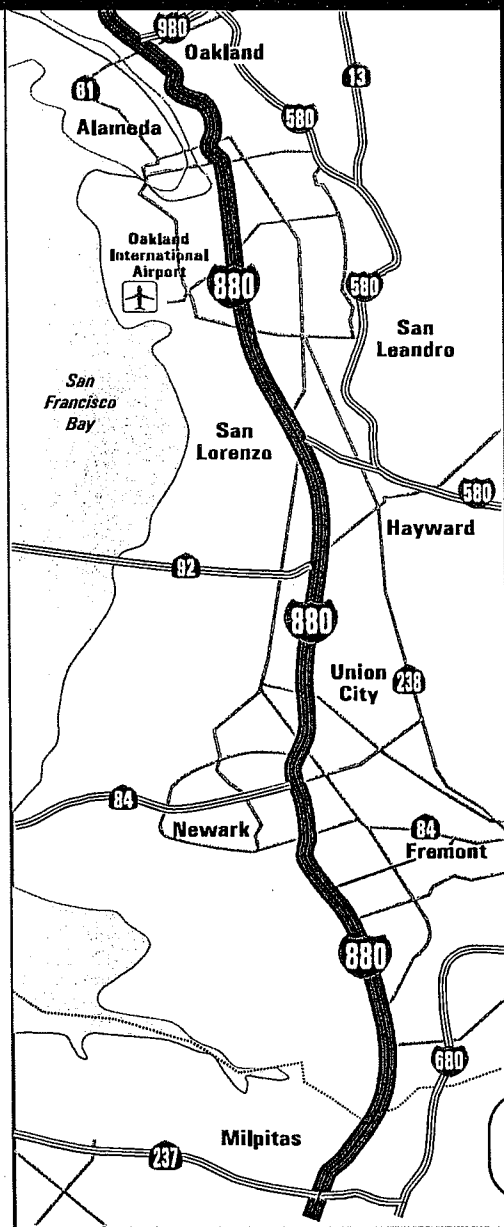
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This summary document is a compendium of working papers, technical memoranda and related documents. These materials are included in the Appendix of this document, published separately.

THE I-880 CORRIDOR: A STRATEGIC VISION



Without new investment strategies, mobility along the I-880 Corridor will continue deteriorating over the next twenty years.

This Strategic Plan is the first step in defining a new vision for the entire I-880 corridor. It includes strategic policies and programs that reflect this new way of thinking, along with an investment program that is supported by these policies. Taken together, the strategic vision for the corridor is focused on improving mobility for everyone traveling in the corridor, thereby retaining the economic vitality and quality of life enjoyed throughout the corridor.

I-880 is a major route for commuters coming from all directions, at all times of day. Many commuters head towards the booming Silicon Valley, which will continue to be a major job generator for the next two decades. Job development from this "economic engine" will continue to outstrip housing production over the next 20 years, and high housing costs will force commuters further away from their work sites. The I-880 Corridor is not limited to the freeway itself. As the freeway becomes more congested, frustrated travelers will seek alternative routes. Local roads will become more congested with trips that would otherwise be made on the freeway, were it not already at capacity. An overtaxed local roadway system will be further impacted by the growing demand for travel between communities and counties on this corridor.

In addition to serving as a major commute corridor, I-880 provides critical access to the Port of Oakland and Oakland's airport. Increasing freight shipments through these critical facilities will augment area truck traffic, which already comprises about 6% of peak freeway traffic. Efforts to convert truck traffic to rails will be impeded by the economics of freight rail movements, suggesting that the port and related facilities will generate more truck volumes in the future.

For the purposes of the I-880 Strategic Plan, the I-880 Corridor has its northern border at the I-880 Cypress freeway connection leading to the Bay Bridge; the southern border is formed by State Route 237 in Milpitas. San Francisco Bay provides the Corridor's natural western limit while in the east, the region is bordered by a combination of I-580 in the northeast, SR 238 in the central area, and I-680 in the southeast.

INVENTING THE FUTURE

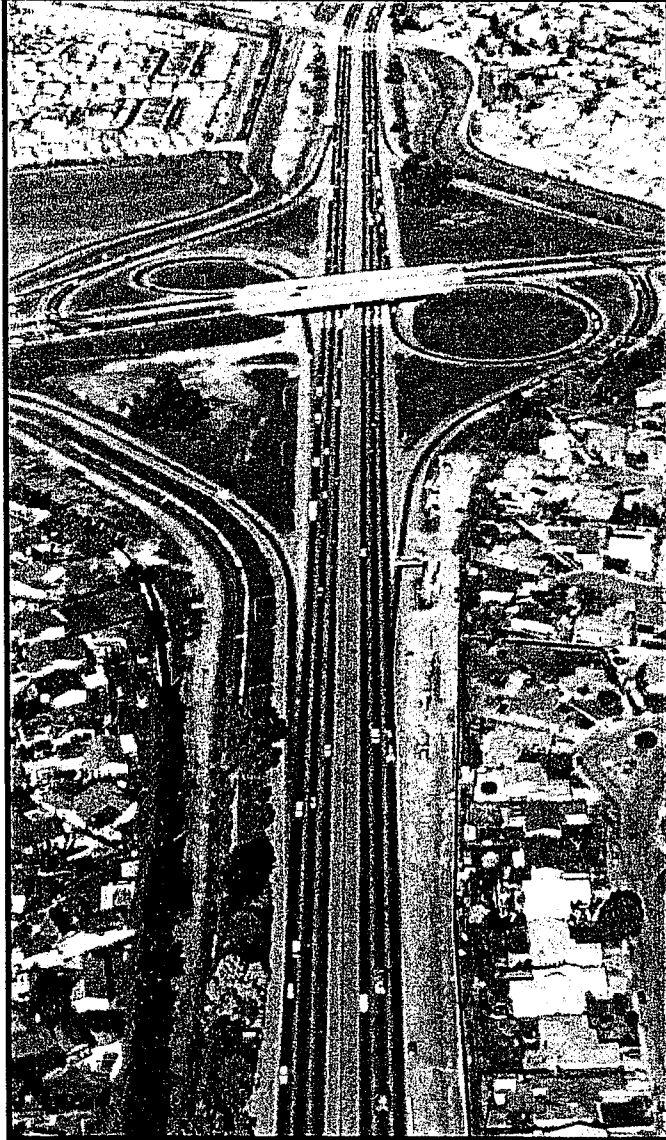
Traditional solutions – such as adding capacity to major roadways – simply are not reasonable options for most of the 35 mile length of this corridor. Investment in I-880 expansions over the years has already widened most of the roadway to the limit of its right-of-way. Additional growth cannot be handled by simply constructing new lanes without seriously impacting the environment and quality of life along the corridor.

Transit services and other alternative modes already play a critical role in moving people in the corridor. BART, AC Transit, Union City Transit and the Alameda-Oakland ferry system provide substantial relief for the roadway network, offering alternatives to many commuters. However, transit options are not universally available, nor do they always provide reasonable time and cost trade-offs for the most frequently made trips.

Creative solutions coming from a strategic vision for the corridor represent a new way of thinking about old problems. Increasing demand must be absorbed by making alternative modes more attractive and available. Additionally, existing links in the roadway network must be more effectively used through focused spot improvements and operational enhancements. Where possible, localized capacity enhancements such as interchange improvements should be applied to optimize overall mobility.

The complexities of the I-880 corridor require carefully balanced solutions coordinated to achieve specific goals. For instance, although heavy congestion on I-238 between I-580 and I-880 could be locally relieved by expansion of the I-238 roadway, it is important to consider overall system capacity when planning these expansions. Since the opportunity to widen surrounding roadway links is severely limited, any I-238 roadway expansions must be counterbalanced with other projects specifically designed to ensure that such expansions effectively increase – and do not hamper – system capacity.

I-880 TODAY: A CRITICAL CORRIDOR...

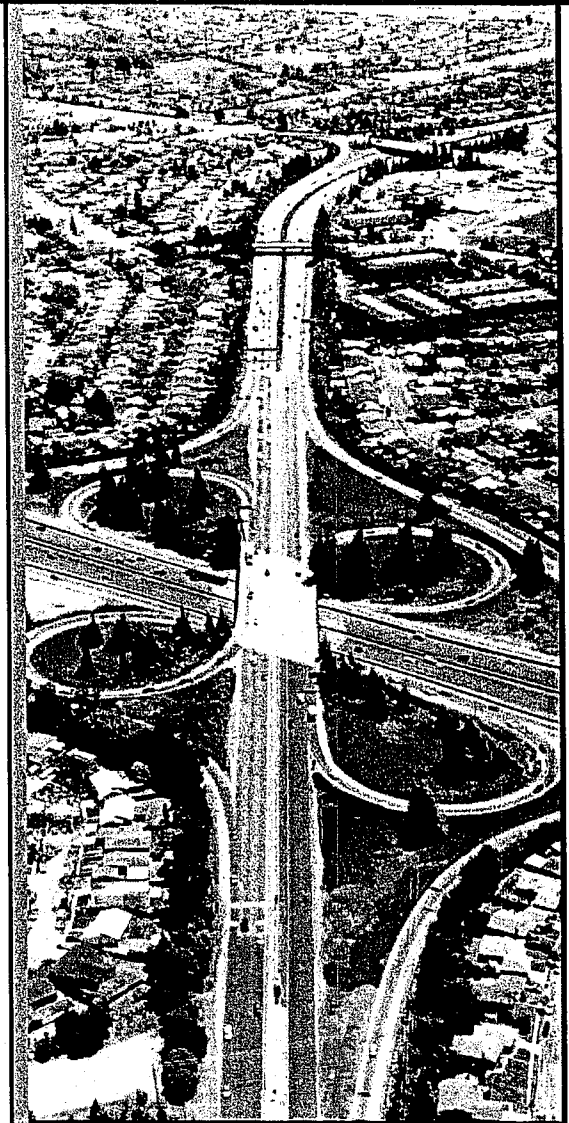


I-880 and Route 84, leading to Highway 101

The I-880 Corridor is effectively the transportation "spinal column" of the San Francisco East Bay Region. Alameda County's segment of I-880 is the most intricate portion of this regional nerve center, reflecting the diversity not only of the County, but of the entire Bay Region.

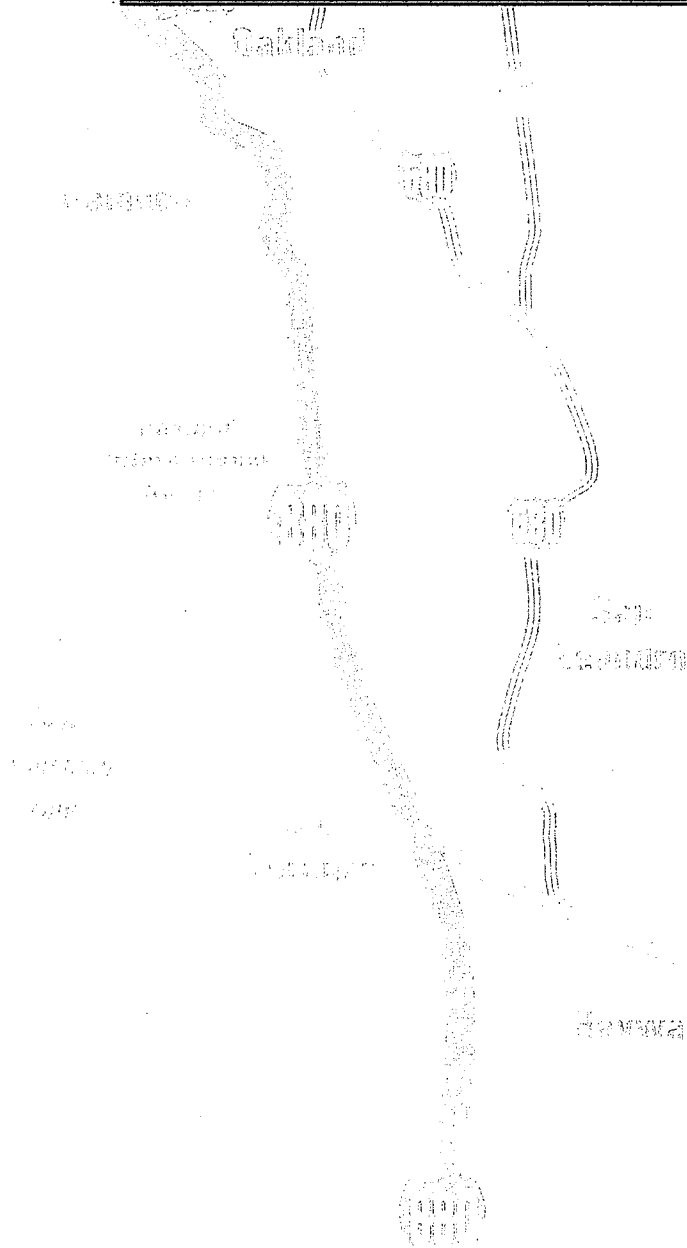
The 35-mile long I-880 Corridor provides a crucial link between the cities of northern and southern Alameda County and connects Alameda County with the adjoining counties of San Francisco, San Mateo, Santa Clara, San Joaquin and Contra Costa. A complicated network of freeways and transit services exist within the 35-mile region of I-880 in Alameda County, bringing commuters from as far away as the Central Valley to workplaces throughout the region.

A host of activity centers are located along the Corridor, acting as both origins and destinations for a variety of trips. Major employment and residential sites line the corridor, as do medical centers, schools and universities, and major commercial areas. Major transportation centers include the Oakland air and sea ports, the Coliseum and the eleven BART stations that serve the corridor. Passenger and freight railroad facilities are also a major attractor in the region, as is access to the area's major bridges: the San Mateo, Dumbarton, and Bay Bridge.



I-880 and Route 92, near Clawiter Rd.

...SERVING THE ENTIRE BAY REGION



Reliable and fast trips are a priority for everyone traveling through the I-880 corridor. Whether it is employees going to work in Silicon Valley, or shoppers traveling to downtown Oakland, or businesses trading goods and services along the region's roadways, time is of the essence all along the corridor.

Several key regional and inter-regional routes interlock the corridor, creating a network of roadways intersecting with local surface arterials and subsidiary streets. When heavy congestion occurs on these roadways, gridlock can threaten the entire corridor. Analyzing the complex interdependence of this network is key to understanding how people and materials move through the region.

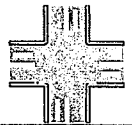
Commuting on I-880 is often a less than pleasant experience, with cars and trucks crowding the roadways during peak morning and evening rush hour periods. Traveling down the corridor today during these peak periods is often an exercise in patience. While public transit, HOV lanes, telecommuting and staggered work hours can all help to ease this traffic overload, twenty year traffic projections do not paint a comforting picture. For the I-880 corridor to function efficiently, a coordinated and broad-ranging strategic plan must be developed and implemented.

I-880 TODAY & TOMORROW

COMMUTE PATTERNS AND TRANSIT OPTIONS

I-880 is a major route for commuters coming from all directions at all times of day. Heavy commute traffic traveling to and from Silicon Valley during the AM and PM peak periods leads to extensive congestion. Increasingly, as housing costs climb in the Bay Area, commuters are relocating to more distant suburbs, thus creating new congestion related to "through-commutes" made by residents in Contra Costa, San Joaquin and more distant counties. Roughly 20% of the traffic on I-880 within Alameda County does not begin or end within the County.

The downtown commercial districts of the Corridor's major cities are major employee attractors, as are major malls and shopping areas. Commute patterns surrounding the Port of Oakland and the Oakland International Airport are complicated both by the 24-hour work schedules common to those facilities, and by the intense freight traffic traveling in and out of both locations. The work schedules of the Corridor's numerous light and heavy industrial plants have similar impacts on the region's commute patterns, with limited transit options in the late evening and early morning hours requiring off-peak workers to commute by car.



Local Transportation

Transit ♦ Existing and Future Conditions

AC Transit operating budget restrictions in recent years have reduced night and weekend service and eliminated unproductive routes. Service has been restructured, where possible, based on the principles established by their Comprehensive Service Plan (CSP) and successor plans, though restructuring has not yet been implemented in the central part of the County.

Recent transit service expansions include the addition of the ACE Commuter Rail service from San Joaquin County and expanded ferry services.

A variety of transit modes and services link housing and jobs within the Corridor and the region. Most commuter services are oriented toward San Francisco.

Projections indicate that BART will experience a 42% increase in 2010 over the 1996 observed ridership between the Lake Merritt and Fremont stations, while AC Transit expects a 12% rise in ridership over the same period.

Expansion of passenger rail in the corridor depends on gaining trackage rights from current railroad operators.

Source: I-880 Intermodal Corridor Study, Phase I Report

PUBLIC TRANSIT IN THE I-880 CORRIDOR

AC Transit – Intra-corridor and Inter-county bus service; express/local service; feeder service to BART and other intermodal services/connections.

Alameda/Oakland Ferry – Inter-county ferry service to San Francisco

Amtrak – Inter-city/state rail service from LA, Seattle, San Joaquin Valley, and Chicago; limited local service

BART – High capacity intra-corridor and Inter-county rail service

Capitol Corridor JPA – Inter-city rail service between San Jose and Roseville; limited local/commuter service

Dumbarton Bus Consortium – Inter-county bus service to San Mateo and Santa Clara counties via the Dumbarton Bridge from Newark

Harbor Bay Maritime – passenger ferry service between Alameda and San Francisco

Oakland Airport/BART, Air-BART – Shuttle service between the Coliseum BART station and the Oakland International Airport

SMART – Inter-county subscription bus service from San Joaquin County, the Livermore Amador Valley and to employment sites in Santa Clara County.

Union City Transit – Intra-corridor bus service, local and feeder service to BART in Union City

SCVTA – Inter-county bus service to Santa Clara County; express bus service to Fremont BART

Transit Service	FY 98-99 I-880 Corridor Observed Average Weekday Ridership ¹
AC Transit	49,000
BART (<i>alightings</i>) ^{1,2}	40,700
Union City Transit	1,800
Ferries	2,400
AMTRAK	500

¹ All ridership numbers represent weekday boardings in the corridor, except for BART ridership, which counts alightings.

² BART Ridership includes alightings on Fremont line stations, excluding Oakland West. Figures do not include riders who may board within the corridor but exit the system outside of the corridor.



I-880 TODAY AND TOMORROW

FREIGHT AND COMMERCE

Truck Freight ♦ Existing Conditions

- ❁ **I-880 CARRIES THE MOST FREIGHT TRAFFIC** in the region, with the stretch between High Street and Hegenberger Road experiencing the greatest volumes.
- ❁ **THE PORT OF OAKLAND GENERATES 25%** of the corridor's truck traffic and accounts for 50% of all seaport truck trips in the Bay Area.
- ❁ **TRUCKS CARRY MORE THAN 80% OF THE FREIGHT FROM THE PORT OF OAKLAND**, with the remaining 15-20% going by rail.
- ❁ **HALF OF THE 1,039 DAILY TRUCK TRIPS** made by Federal Express and UPS to and from the Oakland International Airport occur during the AM and PM peaks.
- ❁ **THE NUMMI AUTO PLANT** and other large industrial operations in the corridor generate significant daily truck activity.
- ❁ **THE FREIGHT PEAK PERIOD** is between mid-morning and early afternoon.
- ❁ **62% OF ALL TRUCK TRAFFIC** in the corridor is traveling intra-corridor; 35% is inter-regional and only 3% is through-traffic.

Source: I-880 Intermodal Corridor Study,
Phase I Report

FREIGHT AND RETAIL CENTERS

Traveling from north to south on I-880 in Alameda County, one is immediately struck by the importance of goods movement and port access along the corridor. In quick succession, one encounters two major freight centers: the Port of Oakland and the Oakland International Airport, both of which rely on efficient truck freeway access. Up to 6% of the peak traffic on I-880 is made up of trucks, the highest proportion of any freeway in the County and among the highest in the state.

Located between these freight transfer points is Downtown Oakland's retail centers, which include Jack London Square and Chinatown. These centers require direct freeway access both for the free movement of goods and the convenience of employees and shoppers. Moving south, industrial centers such as the NUMMI plant and the commercial areas of San Leandro, San Lorenzo, Hayward, Union City, Newark, Fremont and Milpitas are also major freight and retail destinations along the I-880 corridor.

Truck Freight ♦ Future Conditions

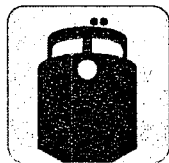
- ❁ **TRUCK FREIGHT VOLUMES WILL INCREASE** by 30% to 60%.
- ❁ **MIDDAY FREIGHT CONGESTION** will be especially severe on I-880 between the Port of Oakland and I-580 and at the SR 92 junction, adversely affecting truck movement.
- ❁ **ACCESS TO THE PORT OF OAKLAND** will continue to be constrained by I-880 and I-980, with some relief offered at the northern end of I-880 by the reconstructed Cypress Freeway.

Source: I-880 Intermodal Corridor Study, Phase I Report

Rail Freight ♦ Existing Conditions

- ❁ **APPROXIMATELY 22 DAILY FREIGHT TRAINS** travel along the I-880 Corridor in Alameda County, with no major congestion blocking the freight rails. In some cases, passenger and freight rail share trackage, limiting potential growth for passenger modes.
- ❁ **FREIGHT RAIL UTILIZATION IS IMPEDED** by the economics of rail distribution. Rail distribution is economical only for long haul trips of over 500 miles. The competition from other container ports, including Long Beach and Los Angeles, further impacts the economics of freight rail.

Source: I-880 Intermodal Corridor Study, Phase I Report

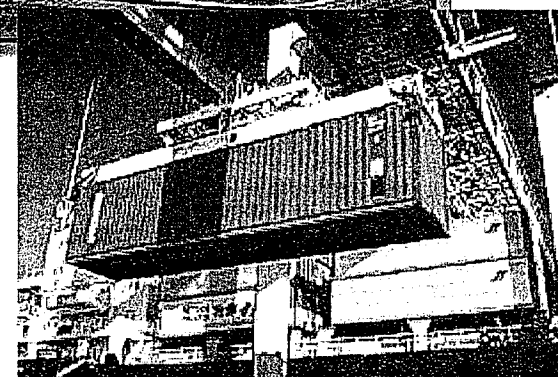
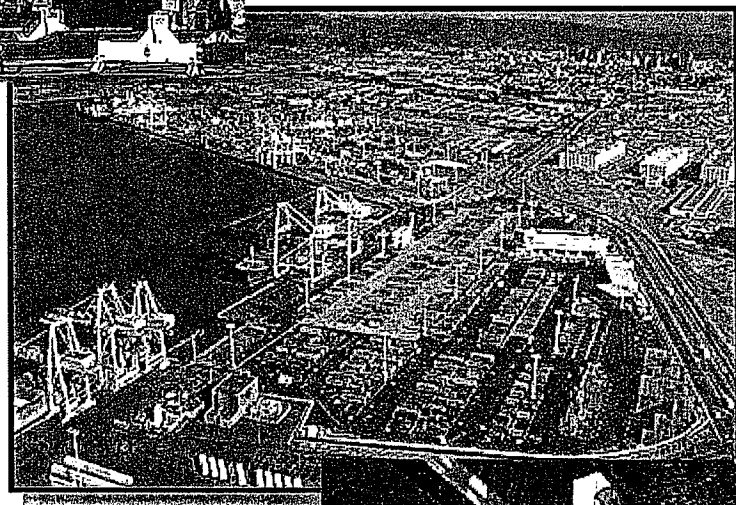
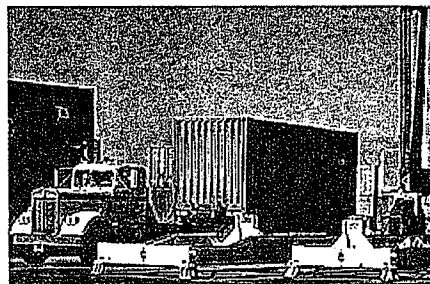


Freight

Rail Freight ♦ Future Conditions

- ❁ **RAIL FREIGHT SHARE WILL INCREASE TO 50%** by the Year 2020 from about 30% today.
- ❁ **EXISTING TRACKAGE WILL BE ABLE TO HANDLE** the increased freight rail service.

Source: I-880 Intermodal Corridor Study, Phase I Report



ONE BASIC PROBLEM...

CONGESTION HOTSPOTS: YEAR 2020

There are severe limitations on the physical expansion of existing freeways in the I-880 Corridor. Having experienced significant investment over the years, I-880 can be considered a "mature corridor" – meaning that few capacity-enhancing projects can be implemented within the existing I-880 right of way. While localized improvement may be possible, care must be taken to avoid "moving congestion" from one hot spot to another. A network's capacity is limited by the capacity of its narrowest links. A plumber's analogy is useful here: if a house has one-inch pipe throughout it, what good does it do to insert a small section of three-inch pipe in the middle?

CONGESTION CONGESTION CONGESTION

As the region grows, the demand for trips will continue to exceed the capacity on I-880 and other key roadway links. To avoid gridlock, more trips need to be encouraged by alternative modes such as rail transit, bus and ferry service as well as carpools, bicycles and walking to relieve congestion. At the same time, the roadway system should be continuously improved to optimize the entire network.

Heavy lines indicate areas of heavy congestion during AM & PM peak periods.

... MANY COMPLEX ISSUES

ACCIDENTS AND INCIDENTS

I-880's traffic accident/incident rate is higher than any other roadway in Alameda county. Roadway accidents and incidents are a major congestion factor all along the corridor and, by their transient nature, one of the most difficult factors to control. Reducing the accident rate and increasing accident/incident response times are the most cost-effective ways of reducing related congestion, saving lives and preventing costly injuries and property damage.

LIMITED SOUTH COUNTY/SOUTH BAY TRANSIT OPTIONS

Southern Alameda County's multi-modal transit options are a major weak point in the transportation network – a 30-minute trip by private vehicle can take as long as 90 minutes on public transit. Possible solutions include improving existing services in the region and looking at the implementation of new services carefully coordinated with current service.

TRAVEL TIME RELIABILITY & FREIGHT MOVEMENT

The ability of freight to move freely along the I-880 corridor is of major concern both to local businesses and planners. A number of "just-in-time" manufacturing businesses, which rely on their ability to transport materials and goods on short notice, can suffer serious economic hardship if corridor congestion becomes untenable.

Heavy freight traffic worsens traffic congestion, especially during peak hours, resulting in travel time reliability problems both for employees and employers. Addressing travel time reliability and freight movement problems calls for creative, multi-tiered solutions such as special programs coordinating freight movement, controlling the length of the peak hour commuter periods and the creation of specialized rest areas for freight drivers.

NO SINGLE SOLUTION

CORRIDOR PROBLEM DEFINITION

"The growing lack of sufficient and appropriately balanced capacity and operational efficiencies in the I-880 Corridor will lead to increased congestion and loss of time. It will also lead to increased unpredictability for people and goods movement, thereby threatening the region's economic vitality and quality of life."*

*Adopted by I-880 Steering Committee
Source: Phase 1 Report*

** e.g., passenger & freight, highway & transit, etc.*

APPROACHING THE I-880 STRATEGIC PLAN

In the past decade, approximately \$450 million has been spent on capital improvements in the I-880 Corridor.[†] By the year 2005, another \$700+ million worth of "Baseline" transportation improvements are slated for implementation in the corridor. Although it is tempting to think there is one easy solution for the corridor, the fact remains that its many problems require, by their very nature, many solutions. Limited rights-of-way along the corridor make it impossible to solve I-880's congestion problems by simply expanding the number of lanes throughout the system. Without careful planning, the congestion problems in the corridor will only multiply, threatening both the region's economy and its quality of life.

The I-880 Strategic Plan has been developed to address the mobility problems facing the Corridor. A Steering Committee and Technical Working Group composed of local officials and transportation professionals have worked on developing the Plan, aided by continual input from members of the general public. First, the developers of the Strategic Plan diagnosed the problem; then, by establishing goals and anticipating future complications, they came up with a scenario of solutions specifically designed to address congestion problems, while reflecting the diverse and interdependent nature of the Corridor.

† excluding funds for the Cypress freeway reconstruction.

CORRIDOR VISION STATEMENT

"Maintain and provide enhanced and appropriately balanced capacity and operational efficiency for passengers and goods movement, including improvement of travel times, reliability, and options. These actions would promote a more vital regional economy and better quality of life for residents."

*Adopted by I-880 Steering Committee
Source: Phase 1 Report*

CORRIDOR GOALS

Recognizing mobility as a key issue in the I-880 Corridor, the I-880 Steering Committee adopted four corridor goals to help focus strategic planning for the Corridor. Reflecting the priority of improved mobility, the four goals strive to:

- **Improve** system performance by limiting the duration of congestion and enhancing system reliability and safety
- **Increase** travel options and integration of modes
- **Enhance** the region's economic vitality and quality of life
- **Fund** system capital and operational improvements

PLAN GOALS

In support of the goals established for this corridor, this plan offers the following:

- **Articulates** a vision for the corridor including strategic policies and principles that direct investments
- **Provides** a set of strategic investments to be implemented over the next 20 years

THE I-880 STRATEGIC PLAN

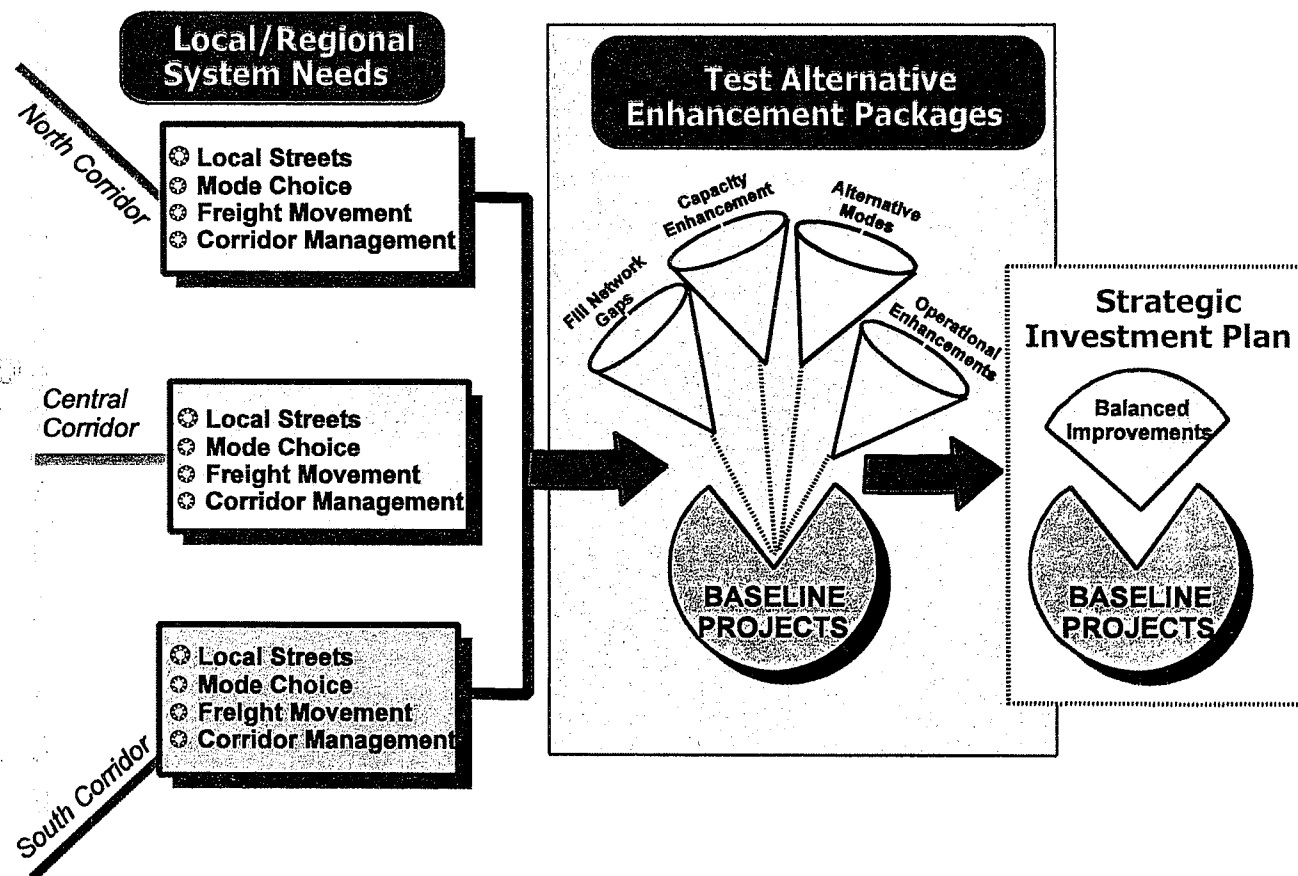
LAYING THE GROUNDWORK

Over \$700,000,000 in projects are already planned and funded for this corridor between now and 2020. Designated by regional consensus, these projects have been identified as **Baseline Projects**. They address a number of corridor issues but, given the complexity of the corridor, cannot be expected to address all of its problems.

As the developers of the Strategic Plan looked ahead to the year 2020, they began building a list of possible corridor improvement projects that would address the deficiencies inherent in the Baseline Improvement package. Over 100 potential projects were identified by project sponsors throughout the County. After assessing both current and potential funding mechanisms available for project development, an overall budget of approximately \$500,000,000 was identified for the funding of a package of project alternatives to augment the \$700,000,000 in Baseline Projects. Each of the four alternative project packages developed to enhance the Baseline Projects addressed the Corridors' mobility problems from a slightly different perspective.

After careful analysis and examination, no one alternative provided the best overall solution. This was not surprising, given the diversity of the corridor and the limitations of available funding. A "blended alternative" was developed by selecting projects from the four alternatives to balance local and regional needs with the interests of the entire corridor. This became the **Strategic Investment Plan** for the I-880 Corridor.

CREATING A STRATEGIC INVESTMENT PLAN



THE I-880 STRATEGIC PLAN

STRATEGIC PRINCIPLES

The I-880 Steering Committee developed a series of strategic principles to help guide project choices for enhancing mobility in the corridor.

PRIORITY MAINTENANCE

Maintenance of the transportation system, including rehabilitation and capital replacement projects, has the highest overall priority in the corridor. Although maintenance projects have the highest priority, they are already funded by set-asides outside the scope of the I-880 corridor funding scheme. Recognizing the limitations of the funding sources for the I-880 Strategic Plan, all new infrastructure construction in the Corridor is assessed a lower priority, behind maintenance and enhancement of existing services.

MOBILITY

The Strategic Plan for the I-880 Corridor recognizes the need to efficiently move both people and goods. The economic health and vitality of the region requires that the corridor continue to serve the timely movement of both people and goods.

COORDINATED INVESTMENT

The Strategic Plan for the I-880 Corridor includes strategies that support capital investments. Investment dollars are maximized by carefully matching the most appropriate funding sources to each project.

CORRIDOR DIVERSITY

Mobility strategies in the corridor are not the same in all parts of the corridor. Land use patterns, transportation infrastructure and travel demand vary from place to place along the corridor, encouraging a strategic plan customized to the particular needs of specific areas.

MODAL CHOICE

The Strategic Plan for the I-880 Corridor will include a broadening of modal choices. Developing a number of modes to address regional mobility problems is far more effective than over-investing in a single mode.

REGIONAL PLANNING

The Strategic Plan for the I-880 Corridor will ultimately revise the County's Long-Range Transportation Plan and serve as advocacy for new funding sources. The Strategic Plan serves three key planning purposes by:

- 1) Providing direct input to the CMA's Countywide Transportation Plan;
- 2) Acting as an advocacy tool for an Expenditure Plan; and
- 3) Guiding advocacy on new revenue sources such as gas taxes and proposed State bonds.

LOCAL PLANNING

Local plans will need to be adjusted to reflect the strategies developed for the I-880 corridor. Some strategic projects may require local initiatives for removing parking, changing signal timing, etc. Additional projects require substantial local participation, affecting transit operations or land use plans and other planning outside the jurisdiction of the Alameda CMA.

THE BASELINE PROJECTS

VALUES & VISION

The 14 Baseline Projects are currently funded and scheduled for implementation in the I-880 Corridor by 2010. They include transit projects such as improvements on the Capitol Corridor and freeway capacity enhancements, such as widening I-880 to 10 lanes between Mission Boulevard–Santa Clara and widening I-238. Projects benefitting freight movement in addition to commuters include the Port of Oakland Joint Intermodal Terminal and selected interchange and local road widening.

The Baseline Project package was evaluated by modeling projected travel demand using ABAG's "Projections '98" 2020 land use assumptions to determine what would happen to travel conditions if no additional investments were made in the corridor. By utilizing peak period modeling, the projected effects of the Baseline Projects provided significant insight into system performance, allowing for a more comprehensive analysis of the "duration" of congestion in the transportation network.

Although Baseline Projects address current and projected corridor problems, analysis indicates important deficiencies will remain in the transportation network after implementation. Identifying these deficiencies set the stage for the development of a package of enhancement projects that would both address these deficiencies and work towards meeting corridor goals.

Freight Enhancement & Travel Time Reliability

BASELINE DEFICIENCY

Unreliable peak periods hurt businesses, which must contend with interruptions in the movement of freight goods and employees.

Arterial Relief

BASELINE DEFICIENCY

Traffic loads on selected arterials will experience capacity overloads of as much as 40%.

Modal Travel Options

BASELINE DEFICIENCY

In the southern part of the I-880 corridor, a 30-minute auto trip could take more than three times as long on public transit. Baseline Projects minimally address multi-modal options.

Freeway Relief

BASELINE DEFICIENCY

AM and PM peak periods will exceed capacity by as much as 30%, in spite of widening I-880 to ten lanes. Peak traffic on I-238 will exceed road capacity by as much as 50%.

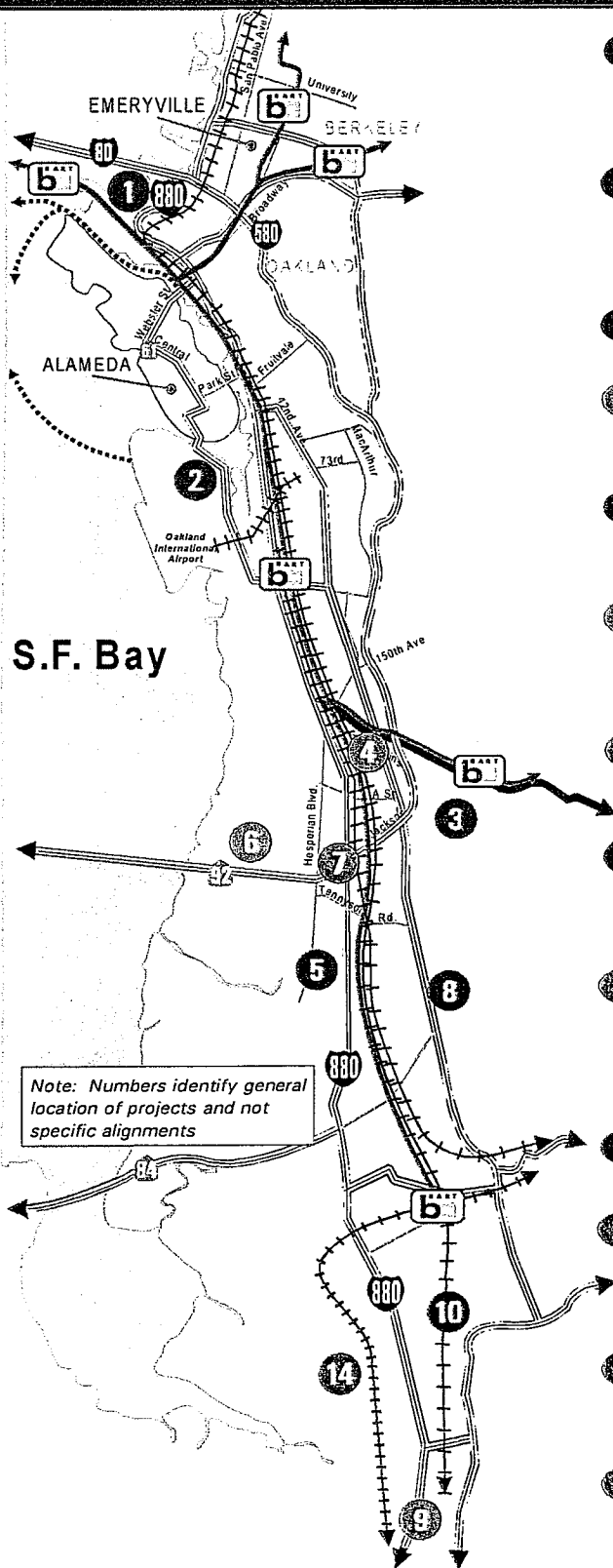
Accident Reduction

BASELINE DEFICIENCY

Projects that speed accident and breakdown recovery would ease "accidental" congestion, a major source of traffic congestion.

THE BASELINE PROJECTS

Projects not shown in
priority order



Project Modes

Transit Alternative Modes

Local Streets/Roads

Freeway

- 1** Port of Oakland Joint Intermodal Terminal – Primarily an intermodal freight movement project with some local impacts, Phase 1 of the JIT consists of demolition, site preparation and the construction required for container storage and loading areas and necessary gate facilities. (\$31.0 million)
- 2** Airport Roadway – Connecting I-880 to 98th Avenue and then continuing to the airport, this roadway runs through the middle of the airport to the City of Alameda and then to Harbor Bay Isle, connecting to Harbor Bay Parkway. The project widens 98th Ave. and Airport Dr. and includes several grade separated structures. (\$31.0 million)
- 3** SR-238 Hayward Bypass (Upgrading 4 Lane Expressway, Stage 1) – Construction of a 4-lane expressway from SR-238/I-580 interchange to Harder Rd. (\$126.4 million)
- 4** I-238 Freeway Widening (between I-880 & I-580) – Widens NB I-238 between I-580 and I-880 from two to three lanes (no HOV), and adds an auxiliary lane on SB I-880 between Hesperian Blvd. and E. 14th. (\$36.9 million)
- 5** Industrial Parkway Widening (Hayward) – Widens the unimproved segment of Industrial Parkway Southwest by one lane between Whipple Road and the improved portion of Industrial Parkway Southwest. (\$0.6 million)
- 6** Widen SR-92 (S. Mateo Bridge Approach, Hayward) – Widen the trestle of the San Mateo-Hayward Bridge from four to six lanes by constructing a new trestle. Construct new mini-toll plaza to add three toll booths. Widen east approach from I-880 to Toll Plaza from four to six lanes. (\$176.0 million)
- 7** SR-92/I-880 Interchange Reconstruction (Hayward) – Reconstruct the existing interchange and add direct connectors from Eastbound SR-92 to Northbound I-880 and Westbound SR-92 to I-880 Southbound. (\$108.0 million)
- 8** SR-238/Mission Blvd Widening Between Hayward Bypass & I-680 (Selected locations: Fremont, Union City, Hayward) – Provides intersection improvements at five selected locations on Mission Blvd. (SR-238) in Hayward, Union City and Fremont. (\$29.5 million)
- 9** I-880 Widening between Mission Blvd & Santa Clara County Line (Fremont) – Widens I-880 to 10 lanes, with structure accommodating 12 lanes from the Santa Clara County line to north of the Mission Blvd. Interchange in Alameda County. Project will also include local improvements on Route 262 and other local roads in Fremont. (\$90.0 million)
- 10** Rail Grade Separations (Fremont) – Construct railroad grade separations along the UP and former SP railroads at Washington Blvd. and Paseo Padre Parkway. (\$35.7 million)
- 11** Advanced Automatic Train Control (AATC)* – BART's AATC Project replaces the existing aging train control system with a new state-of-the-art system that expands the functional capacity of the BART system. AATC will allow for the running of trains closer together, while shortening the trip time. (\$19.5 million)
- 12** Regional Rideshare Program* – This program provides comprehensive information regarding commute alternatives to employers and the public in all nine counties and provides ridematching to assist commuters to form carpools and vanpools. (\$3.6 million)
- 13** Automated Fare Collection/Translink* – This system management program would meet the primary objectives of local transit operators for their next generation of fare collection technology. Transit operators' objectives include, but are not limited to: reducing driver interaction with fare collection equipment, maintaining low operating costs, limiting fraud and improving MIS/data capture capabilities. (\$38.7 million)
- 14** Intercity Passenger Rail (Capitol Corridor) – The FY 98/99 Governor's Budget includes increasing Capitol Corridor service to six daily round-trip trains. (\$19.9 million)

* Not pictured on map.

THE BASELINE PROJECTS

ADDRESSING THE DEFICIENCIES

BASELINE BOTTOM LINE: NO SIMPLE SOLUTIONS

The Baseline Project package evaluation revealed specific weaknesses in the I-880 Corridor that would continue after the Baseline projects were implemented. Analyzing the remaining mobility problems in the corridor provided a basic guide for designating projects for the four alternative enhancement packages.

Hayward

I-238 Congestion

A series of slow-moving access points will, in effect, meter traffic between I-238 and I-880. Today, I-238 is already one of the most congested spots in the system. By the time the Baseline Projects are completed, eastbound PM peak travel demand on I-238 will exceed planned capacity at its juncture with I-580 by as much as 50%.

Arterial Congestion

Ironically, congestion on the major arterials leading to I-880 will provide a "natural" metering effect, slowing the rhythm of traffic moving onto the freeway itself. Unfortunately, this metering has an adverse side effect in that it prolongs the duration of the AM and PM peak periods. Despite the implementation of Baseline Projects, peak period congestion could exceed capacity by at least 40% on several arterials, including the Webster/Posey Tubes, High Street, Oakport Road, Washington Avenue, Dyer Road, Industrial Parkway and Alvarado Boulevard.

The AM and PM Peak Periods

Peak period travel demand will overtake capacity on I-880, despite plans to widen the freeway to ten lanes in Southern Alameda County. Freeway capacity overloads have a number of network ripple effects, extending the actual duration of the peak period and interfering with freight operators trying to travel during off-peak periods. As freeway traffic becomes more congested, frustrated motorists find other routes – moving congestion onto local arterial streets.

Transit Options

The Capitol Corridor enhancement and BART train control improvements will encourage solo drivers to seek alternate modes. Modal options are particularly limited in the southern part of Alameda County, where a transit trip can take three times long as one undertaken by private automobile.

Accidents/Incidents

The high rate of accidents on I-880 and I-238 will continue to rise along with traffic volumes; there are no Baseline Projects that specifically address the issue of accidents and incidents. As travel demand increases, any accidents or "incidents" in the system greatly add to traffic delays, impacting both commute and freight traffic. Investment focused on reducing these accident/incident rates may well be the most cost-effective way of improving travel time and reliability in the corridor.

Roadway Configurations

The suitability of roadway geometrics – such as the configuration of turning lanes and on-ramps – suffer as travel demand increases. Arterials, collectors and local streets become outdated when roadway capacity is constantly exceeded, resulting in severe congestion problems. Because of their local nature, geometric congestion problems are not well reflected in volume/capacity ratios or travel time delays as forecasted in county-wide travel models.

STRATEGIC POLICIES, PLANS & INVESTMENTS

1. MAINTENANCE AND REHABILITATION OF EXISTING TRANSPORTATION SYSTEM

The replacement of old equipment and the repair of deteriorating or unsound structures is a key element in addressing I-880 Corridor needs. *Since current MTC policy funds system maintenance and rehabilitation capital projects, these projects are not included as part of the Strategic Investment Plan.*

Maintenance & Rehabilitation of All Modes

- **Maintenance of the existing transportation system** has the highest overall priority for all modes. For transit, this includes fully funding each operator's capital replacement needs. After maintenance projects, priority will be given to the enhancement of existing investments and, finally, new infrastructure investment.

Maintenance, Rehabilitation and Restoration of the Transit System

- **The seismic retrofit of BART is a high priority.** Since this funding is expected to come from other unidentified sources, such as a bond measure and/or Caltrans, this project is not budgeted as part of the Strategic Plan.

2. RESTORATION AND ENHANCEMENT OF BUS TRANSIT SERVICES.

After addressing the maintenance and rehabilitation needs of the existing transportation system, the restoration and enhancement of bus transit services in the region should receive the next highest priority. Full implementation is dependent on securing funding for operating needs. Some new operating funds may be available through the extension of the transportation sales tax.

STRATEGIC POLICIES, PLANS & INVESTMENTS

3. MANAGEMENT OF THE EXISTING TRANSPORTATION SYSTEM

By improving the operation of elements in the existing transportation system, these projects make the most of previous investments and provide a solid springboard for any future infrastructure improvements.

Overall System Management

- ⊗ **Strategies should be developed to optimize overall travel times throughout Alameda County**, rather than focusing exclusively on one facility. While maximizing the movement of people and goods is desirable, goods movement should not be prioritized over the movement of people.

Management of Local Streets and Local Trips

- ⊗ **The development of improved arterials is a local issue**, even though local congestion often has regional consequences.
- ⊗ **Arterials should not be used to "attract" traffic from the freeway**, except for short intra-jurisdictional trips that are better served by the arterial street network.
- ⊗ **The development of "super-arterials"** should be considered on a case-by-case basis.
- ⊗ **Bus service improvements should be designed to encourage short trips onto the transit network.** Such improvements include bus bulbs, stop amenities and Key Route implementation.

Freight Management Strategies

- ⊗ **Improved freight movement during off-peak hours should be addressed with a series of coordinated strategies**, such as:
 - ✓ **Limit Caltrans maintenance work** to night hours.
 - ✓ **Encourage solutions** for distributing auto traffic between I-580 and I-880, while enhancing the quality of life in both corridors.
 - ✓ **Encourage changes in union work rules** that support night time freight movement.
 - ✓ **Develop quality 24-hour truck stops** to facilitate freight movement, especially during night-time hours.
 - ✓ **Develop container storage facilities** at strategic locations throughout the county.
 - ✓ **Encourage rail usage**, where economically feasible, for longer distance freight movement.
 - ✓ **Seek alternative improvements** that minimize freight impacts on the I-880 corridor.

Strategic Investment Plan –

Existing Transportation System Management Projects

I-880 Broadway/Jackson Ramps

I-880 Ramp Modernization 42nd/High

Assorted Corridor Management Plan Projects

I-880 Corridor Beautification Project (*North County*)

AC Transit Key Bus Routes

STRATEGIC POLICIES, PLANS & INVESTMENTS

4. STRATEGIC EXPANSION

After addressing the problems of the existing transportation network through rehabilitation and management projects, strategic expansions of the system will then be considered.

I-238 Expansion and Commitment

- ⊗ **I-238 between I-580 and I-880 has the highest priority for strategic system expansion in the corridor.** At minimum, expanding the roadway to three lanes in each direction should be included in the Strategic Plan. Any additional capacity enhancement (e.g., to a total of eight lanes or a truck bypass) must be coupled with appropriate I-880 expansions to ensure such expansions are effective system-wide.
- ⊗ **An operational study of the interaction between I-238 and I-880** should be completed to ensure that total throughput is optimized.

Transit System Expansion

- ⊗ **The Oakland Airport Connector shall be a priority for new transit infrastructure,** should such a project prove politically and fiscally practicable. The Connector would improve transit connection to both the international airport and nearby jobsites.
- ⊗ **The BART Warm Springs Extension** (*South County to Santa Clara Rail Connection*) shall be a priority and is supported as an important step towards creating a crucial link between Southern Alameda and Santa Clara Counties, with interim solutions such as commuter bus and/or rail service also strongly encouraged. The City of San Jose has recently endorsed a BART to San Jose extension, and the BART Warm Springs project is seen as the first step towards a more comprehensive extension.
- ⊗ **Rail connections in the Dumbarton corridor** should also be included in the Countywide Plan, assuming adequate funding can be found.
- ⊗ **Inter-county rail services** would require agreements and coordination with Santa Clara and/or San Mateo County.

Strategic Investment Plan – Strategic Expansion Projects

I-238 Expand to 6 lanes (*3 lanes in each direction*)

BART-Oakland Airport Connector

Express Bus Services/Dumbarton Corridor Improvement

BART-Warm Springs Extension

WB I-580 to SB 238 Direct Connector

SR-238 Hayward Bypass Stages II/III*

** (environmental review pending)*

STRATEGIC POLICIES, PLANS & INVESTMENTS

5. TRANSPORTATION OPERATIONS ADVOCACY

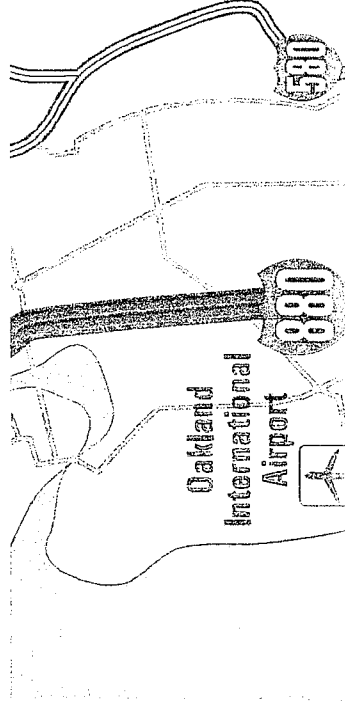
Following the implementation of strategic expansions, this final project category addresses overall system operations, including advocating for increased operating resources.

Transit System Operations

- **Restoration and enhancement of AC Transit** and other transit services are critical to mobility in the corridor. Identifying adequate operating funds to restore appropriate service and enhance the corridor's bus network is a priority.
- **Adequate and secure funding** for all regional transit, including rail and bus services, should be maintained and enhanced.
- **Equitable distribution of federal funding** to transit operators, including flexible allocation and use of federal capital funds, is critical to ensuring that the highest level of service can be provided throughout the corridor.
- **ACE Commuter Rail service** has become an integral link for regional trips between the Central and Silicon Valleys; operating funds must be identified to continue this service.
- **Dumbarton Corridor** – High priority should be assigned to identifying operating funds and a responsible agency for rail or other transit enhancements along the Dumbarton corridor.

Roadway System Operations

- **Roadway safety and reliability enhancements** are the highest roadway operations priority.
- **Freeway Service Patrol operating funds** are a high priority – such a service could significantly impact congestion caused by accidents and incidents.
- **The Traffic Operations System (TOS)**, which optimizes existing roadway operations, should be completed and enhanced.



I-880

STRATEGIC INVESTMENT PLAN

CREATING THE STRATEGIC INVESTMENT PLAN

From the enhancement alternatives initially studied, the most effective projects were selected for the **Strategic Investment Plan**, addressing both baseline deficiencies and the Steering Committee's Strategic Policies, Plans and Investments. It is important to note that these strategic investments represent only one element of the plan for the I-880 Corridor. Investments must be supported by sound policies and enhancement strategies to successfully achieve mobility goals.

The Strategic Investments were selected according to five strategic priorities established for the Corridor:

1. **Maintenance and Rehabilitation of Existing Transportation System**

Replace old equipment and repair deteriorating structures.

2. **Restoration and Enhancement of Bus Transit Services.**

Restore bus service lost through service cuts and enhance existing service.

3. **Management of the Existing Transportation System**

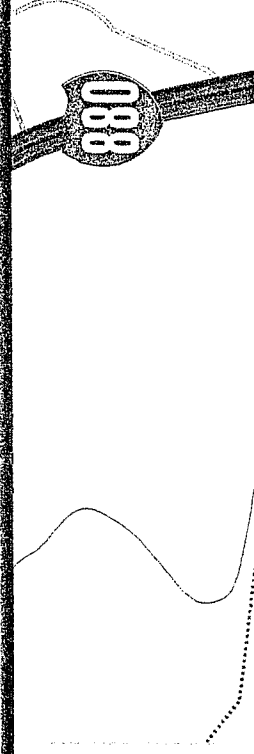
Improve the operation of the existing transportation system.

4. **Strategic Expansion**

Coordinate any strategic expansions with the maintenance and management projects of the existing system.

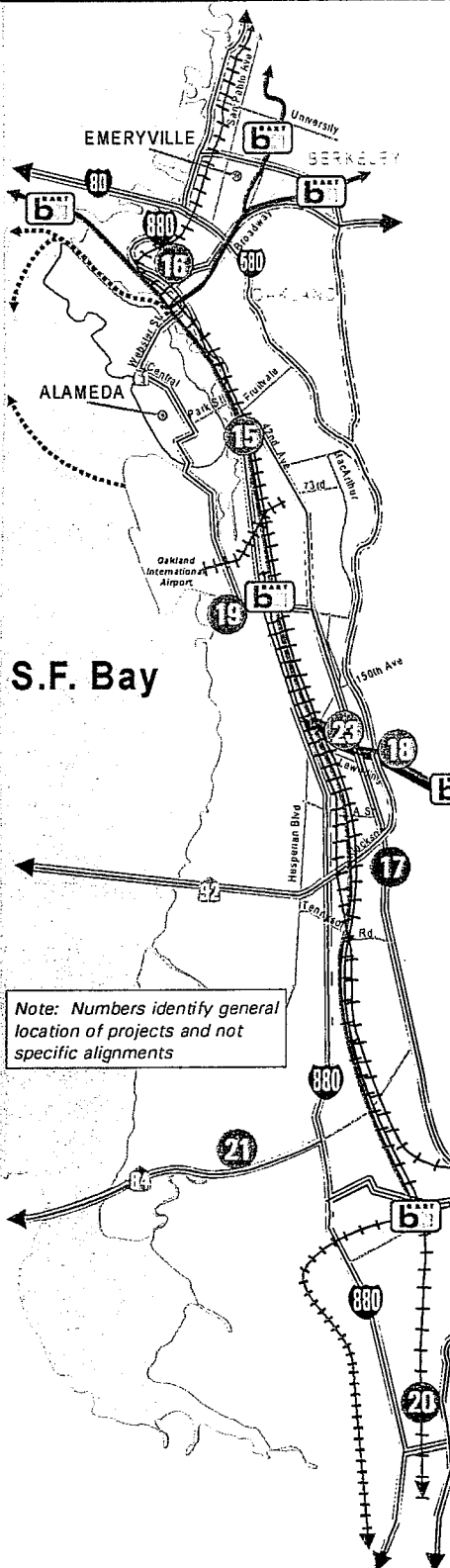
5. **Transportation Operations Advocacy**

Future multi-modal system expansions should be carefully planned, coordinated and enacted.



STRATEGIC INVESTMENT PLAN PROJECTS

Projects not shown in priority order



- 15** I-880 Ramp Modernization 42nd/High – Rebuilds and enhances ramp structure. Critical for freight, transit and auto traffic. (\$10.0 million)
- 16** I-880 Broadway/Jackson Ramps – Replaces access previously available for Alameda, Jack London Square and Oakland's Chinatown. Critical for freight, transit and auto traffic. (\$47.9 million)
- 17** SR-238 Hayward Bypass Stages II/III – Completes the four lane expressway project. Stage I is included in the baseline projects. *Note: The I-880 Corridor Steering Committee determined that environmental review on the SR-238 Hayward Bypass project should continue and that this project should be included in the Strategic Plan "without prejudice."* (\$76.8 million)
- 18** WB I-580 to SB 238 Direct Connector – This project is linked to the SR-238 Bypass project. (\$7.8 million)
- 19** BART-Oakland Airport Connector – Proposes a grade separated rapid transit link from the Coliseum BART station to the Oakland Airport. Technology has not yet been selected. (\$130.0 million)
- 20** South County-Santa Clara Rail Connection– Modeled as a single station extension from Fremont BART to the Warm Springs station, with connections to Santa Clara County, this project will provide frequent rail service between southern Alameda County and Santa Clara County. The City of San Jose has recently endorsed a BART to San Jose extension, and the BART Warm Springs project is seen as the first step towards a more comprehensive extension. (\$100.0 million)
- 21** Express Bus Services/Dumbarton Corridor Improvement – Enhances existing network by providing new services both inside the county and between Alameda and Santa Clara and San Mateo Counties. High priority should be assigned to identifying operating funds and a responsible agency for rail or other transit enhancements. Interim Express Bus Connections are modeled in the Strategic Plan. Operations funding will need to be identified in transit operators SRTP. *Note: rail solution would require additional funding.* (\$9.6 million)
- 22** AC Transit Key Bus Routes * – Purchases rolling stock, stop amenities, and related capital for key route implementation. Funding for operations is expected to be identified in AC Transit's SRTP. Improvements will be focused on the E. 14th/Foothill/Mission corridor. (Oakland/San Leandro area) (\$68.0 million)
- 23** I-238 Expand to 6 lanes (3 lanes in each direction) – Cost does not include \$36M that is programmed in baseline for northbound direction. This project completes the expansion to 6 lanes. (\$66.0 million)
- V** Various Projects
- Corridor Management Plan Projects*** – Provides for minor geometric improvements, signalization, enhanced transfer centers, bicycle projects and pedestrian projects. (\$20.0 million)

* Not pictured on map.

Note: These costs represent the I-880 Corridor portion of the project cost and do not represent total project cost in all cases.

Project Modes

Transit/Alternative Modes

Local Streets/Roads

Freeway

I-880: THE FUTURE

IMPACTS OF THE STRATEGIC INVESTMENT PLAN

Future conditions were projected in the corridor utilizing data from a variety of sources. Modeling analyses of corridor conditions after the implementation of the Baseline Projects and the Strategic Investment Plan revealed slight, but noticeable, improvements in several important performance measures. These results, while subtle, suggest that investing in the projects included in the Strategic Investment Plan will improve mobility over the Baseline conditions. An easy solution to corridor congestion does not exist. Rather, a multitude of solutions must be implemented, working together in much the same way that planners, local leaders and the general public must work together to coordinate strategies for assessing and dealing with the corridor's priorities and problems.

Overall, the Strategic Investment Plan offers measurable improvements in every performance category over the baseline condition. The change in Vehicle Hours Traveled (VHT) is proportionately greater than Vehicle Miles Traveled (VMT), indicating that although trip lengths will increase, the time people spend in their cars will slightly decline. Person hours in congestion, lane miles operating in congestion, delay due to incidents, tons of pollutants and fuel consumption all decrease consistently in the Strategic Investment Plan scenario. Fatality accidents also decrease, but there are very slight increases in injury and property damage accidents. These changes are due to shifting patterns in facility use.

BASELINE VS. STRATEGIC INVESTMENT PLAN

PERSON HOURS IN CONGESTION

Compared with the Baseline Projects network, the addition of Strategic Investment Plan projects reduced the number of person hours in congestion. Almost 2%, or 88,200 person hours, were reduced during the AM peak period, while just under 1%, or 61,000 hours, were "saved" in the PM peak period.

DAILY PERSON-HOURS TRAVELED					
AVERAGE PERSON HOURS AM PEAK PERIOD			AVERAGE PERSON HOURS PM PEAK PERIOD		
Baseline	Strategic	% Change	Baseline	Strategic	% Change
4,648,700	4,560,500	-1.9%	6,855,200	6,824,200	-0.9%

LEVEL OF SERVICE (LOS)

With just the Baseline Projects in place, Level of Service (LOS) projections indicate that 4.4% of I-880 corridor lane miles will be fully saturated (with operating values at or in excess of capacity) for the full four hour AM peak period. The PM peak projections show 10.4% of the system's lane miles will be fully saturated.

The Strategic Investment Plan scenario would result in modest reductions in congestion durations, with fully saturated lane percentages during the AM and PM peaks declining by 0.6% and 0.1%, respectively. During the PM peak, the percentage of lane miles operating in uncongested conditions (i.e., at LOS A through LOS D) improves by 1.2% when Strategic Investment Plan projects are implemented along with the Baseline projects. Such increases correlate with decreases in lane miles operating at the most highly congested levels (LOS E-F4).

BASELINE VS. STRATEGIC INVESTMENT PLAN

PERSON HOURS IN CONGESTION, VMT & VHT

These two analyses also revealed improvements over baseline conditions for the Strategic Investment package within a four-hour AM and PM peak period. VMT decreases by 42,600 miles in the AM peak and by 24,420 miles in the PM peak period. These changes are complimented by VHT decreases of 2,980 hours and 2,460 hours in the AM and PM peaks, respectively.

VEHICLE MILES TRAVELED AM PEAK PERIOD

Baseline	Strategic	% Change
6,245,893	6,203,290	-0.68%

VEHICLE MILES TRAVELED PM PEAK PERIOD

Baseline	Strategic	% Change
7,875,472	7,851,051	-0.31%

VEHICLE HOURS TRAVELED AM PEAK PERIOD

Baseline	Strategic	% Change
242,397	239,420	-1.23%

VEHICLE HOURS TRAVELED PM PEAK PERIOD

Baseline	Strategic	% Change
317,582	315,120	-1.23%

SELECT ZONE-TO ZONE TRAVEL TIMES

Common origin-destination pairs in the corridor were selected to determine how the Strategic Investment Plan would compare with the baseline. In most cases, auto travel times remained the same or improved slightly. Transit travel times were significantly improved with the addition of new transit infrastructures.

The BART Warm Springs Extension resulted in substantial transit travel time improvements for many O/D pairs, such as destinations in Silicon Valley and southern Alameda County. Transit travel times with the proposed BART extension rival highway times for the same trip. Similarly, the Oakland Airport Connector project also reduced transit travel times on a critical link. Selected capacity improvements and the mode shift resulting from the BART extension reduced auto travel times in the Oakland to San Jose corridor as well. Shaded times in the table on the opposite page indicate improvements in travel times.

SELECT ZONE-TO ZONE TRANSIT TRAVEL TIMES				
Origin	Destination	Time Type	Transit AM Peak Travel Time O-D (min.)	
			Baseline Projects	Strategic Investments
Fremont Thornton Ave. & Fremont Blvd.	San Jose Zanker Road & Tasman Drive	In-Vehicle Time <u>Wait Time</u> TOTAL TIME	69.0 <u>21.0</u> 90.0	35.0 <u>17.0</u> 52.0
Castro Valley Castro Valley Blvd. & Redwood Rd.	San Mateo El Camino Real & Crystal Springs Rd.	In-Vehicle Time <u>Wait Time</u> TOTAL TIME	60.0 <u>18.0</u> 78.0	58.0 <u>18.0</u> 76.0
Hegenberger Rd. & I-880	Oakland Airport	In-Vehicle Time <u>Wait Time</u> TOTAL TIME	12.0 <u>5.0</u> 17.0	4.0 to 9.0 ¹ <u>2.5</u> 6.5 to 11.5
I-880 Intersection of SR 92	I-880 Intersection of I-980	In-Vehicle Time <u>Wait Time</u> TOTAL TIME	76.0 <u>17.0</u> 93.0	37.0 <u>11.0</u> 48.0
Downtown Oakland	San Jose	In-Vehicle Time <u>Wait Time</u> TOTAL TIME	109.0 <u>19.0</u> 128.0	57.0 <u>14.0</u> 71.0

¹Travel time of 9.0 minutes is based on model results assuming at grade Light Rail. BART/Port of Oakland (the Oakland Airport connector project sponsors) have indicated that they intend to operate service to the airport with travel times of under five minutes.

THE STRATEGIC PLAN FUNDING PROCESS

DEDICATED FUTURE FUNDING

MTC projects its transportation funding from existing federal, state, regional and local revenues over the next twenty years to be \$88.4 billion, with approximately \$82 billion committed to MTC baseline projects, including several I-880 Corridor Baseline Projects, and existing transit services.

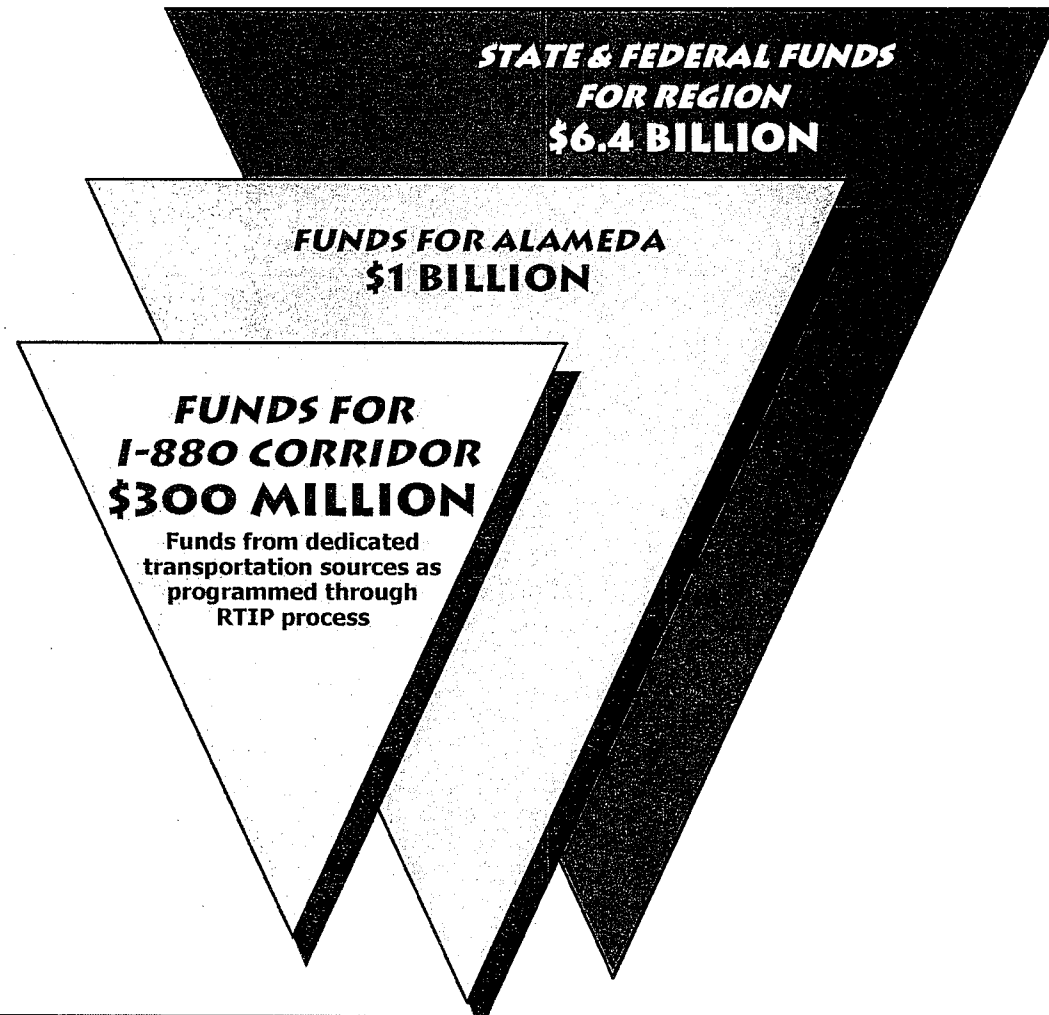
The remaining \$6.4 billion of dedicated project revenues will be used for *all* remaining Track 1 investments in the region. MTC projects that Alameda County will receive about \$1 billion of that from various state and federal funding sources, with approximately \$300 million reasonably expected to cover future projects in the corridor.*

Some of those funds will be needed to fill a funding gap of approximately \$19.9 million for the I-880 Corridor Baseline Projects, with projects such as the Airport Roadway and the Mission Blvd interchange still not fully funded.

**Expected Revenues
from Dedicated Funding
\$300 million**

** MTC Draft Revenue Estimates, "1998 RTIP Track 1 Fund Estimate Assuming Limited SHOPP"*

1998 RTIP TRACK 1 FUNDING ESTIMATE FOR ALAMEDA COUNTY & I-880 CORRIDOR



DISCRETIONARY FUNDS

Other discretionary funds expected to be available at the regional level include State funds and Federal Transit Administration (FTA) discretionary funds.

State Funding

Assuming that the region receives program funds in accordance with projected population increases over the next twenty years, the I-880 Corridor can expect to benefit from 20% of the region's share of these funds, representing approximately \$180 million. Although none of the I-880 Baseline Projects are currently designated to receive such state funds, there are \$176 million worth of projects in Alameda's CWTP scheduled to compete for discretionary State funds in the future.

Strategic Investment Plan projects potentially eligible for future State discretionary funds include:

- **BART-Oakland Airport Connector**
- **I-880/I-680 Connector**
- **South County to Santa Clara County Rail Corridor (BART Warm Springs Extension)**

**Expected Revenues
from State Funding**

\$180 million (est.)

New Starts

Funding through the FTA Section 5309 program is dependent upon a Congressional earmark for fixed guideway projects. Of the \$300 million that MTC predicts will be available regionally over the next twenty years from this program, between \$100 and \$150 million might be available for Corridor projects, such as the Light Rail Extension from Tasman to BART Warm Springs, one of the biggest projects in the Strategic Investment Plan.

Corridor projects potentially eligible for Federal New Starts funds:

- **Dumbarton Rail Corridor (advocacy project)**
- **South County to San Jose Rail Corridor (BART Warm Springs Extension)**
- **AC Transit Key Transit Routes**
- **BART-Oakland Airport Connector**

**Expected Revenues
from New Rail Starts**

\$100-150 million (est.)

The Strategic Plan Budget

Because none of these sources are certain, the "budget" for projects beyond the baseline in the I-880 Corridor assumed a maximum of about \$500,000,000 over 20 years. Approximately half of the \$500,000,000 is from existing and known sources, with the other half coming from new sources.

NEW FUNDS

Several revenue sources may become available in the next 20 years, outside of STIP and other dedicated funding. The specific source of new funds has not been identified, and could include a combination of new funding programs, some of which are illustrated in the following pages.

**Projected 20-year Revenues from
Reauthorized Sales Tax to
I-880 Corridor
\$180 million (est.)**

Reauthorized Sales Tax (Measure B)

Alameda County's Measure B created the Alameda County Transportation Authority (ACTA) in 1986. It imposed a one-half cent sales tax throughout the county for a period of fifteen years, the proceeds of which are specifically earmarked for transportation projects such as highway widening, rehabilitation projects, AC Transit funding and numerous paratransit services for the elderly and disabled. Additionally, the funds support local street and road maintenance throughout the County.

Current funding projections reflect the fact that the tax is scheduled to expire in 2002. Although Measure B reauthorization failed to garner the required two-thirds majority vote in June 1998, efforts are underway to attempt another reauthorization. Should reauthorization occur, potential revenues would have a significant impact on I-880 Corridor projects. Realizing that the specific projects funded by reauthorization would be, to some degree, contingent on the wording of the actual reauthorization initiative, it is reasonable to project that the I-880 Corridor could expect approximately \$180 million in sales tax revenues to be made available over the next twenty years for corridor projects.

A bill currently being debated by the California legislature offers counties with current transportation sales taxes the opportunity to extend their tax for 20 years with a simple majority vote. If passed, this bill will put on the November 2000 ballot a state-wide initiative that would enable counties to impose a transportation sales tax of up to 1/2 cent and would extend existing taxes, provided that a 20-year expenditure plan has been adopted by the tax authority. Alameda County is currently finalizing its expenditure plan, which will fund many of the high priority projects in the corridor.

FUTURE FUNDING SOURCES

Regional Gas Tax

Projected 20-Year Revenues from Regional Gas Tax to I-880 Corridor

\$85 million (est.)

With the passage of SB 595, MTC has the authority to go to the voters for a regional tax increase of up to ten cents per gallon. Although MTC has no plans for such a vote prior to the year 2000, recent polls have suggested that voters are unlikely to pass a tax increase exceeding four cents a gallon. Assuming a modest tax of two-cents a gallon, the I-880 Corridor Projects could benefit from about \$85 million in revenues over the next 17 years.

Bridge Tolls

The current \$1 seismic surcharge on Bay Area bridges is scheduled to sunset in 2006, with an option for MTC to extend it without legislative action through the year 2008. It is highly likely that the legislature would place any surcharge extension beyond 2008 directly before the voters. Currently, the surcharge generates about \$132 million per year from the Bay Area bridges.

Revenue from the seismic surcharge may currently be spent on a limited number of projects related to seismic safety. If the surcharge were extended from 2008 to 2018, and annual toll revenues remained approximately the same, about \$240 million could be available for corridor improvements meeting those requirements.

Projected 20-Year Revenues from Bridge Tolls to I-880 Corridor

\$240 million (est.)

THE I-880 STRATEGIC ACTION PLAN

INVESTING IN SOLUTIONS

Improving mobility in the I-880 Corridor will take more than words – it requires a dedication to action. And while securing funding for projects is certainly a priority, it is by no means a panacea for solving the Corridor's mobility challenges. In order to successfully meet future challenges, the Corridor's Action Plan must offer a fully integrated, systemic approach, coordinating local, regional and inter-County action plans, and balancing the perspectives of both the private and public sectors.

LOCAL ACTIONS

While the Strategic Plan recommends Corridor-wide programs and projects, the success of these investments depends heavily on supporting local actions.

REGIONAL ACTIONS

Alameda County must work cooperatively with its neighbors to realize solutions that improve the I-880 corridor, ensuring mobility that extends beyond county borders.

COUNTY-WIDE ACTIONS

Strategies for the Corridor need to be considered in all County-wide planning processes. The needs of this Corridor must be balanced with those of the entire system for optimal results.

PLANNING AREA ACTIONS

Local jurisdictions, working with neighboring communities can refine strategies that will work best at the sub-corridor level. Planning area efforts should be devoted to refining the list of corridor management projects and to developing "mini-corridor" plans that tailor the Strategic Plan's strategies to local needs.

LOCAL ACTIONS

Supportive Land Use Planning

Land use planning is a local decision that is not controlled by the Congestion Management Agency. Local planning decisions supportive of the Strategic Plan are necessary both to guarantee the benefits of these investments and to ensure that future demand does not outpace the system's ability to handle it.

- ❁ **Concentrate higher density development around transit nodes** – Transit operates most effectively in higher density environments, which provide nodes to concentrate trip origins and trip destinations, optimizing the most direct transit services. Concentrating density adjacent to transit nodes eliminates the need to transfer between routes or modes, and simplifies transit trip making.
- ❁ **Encourage in-fill development that enhances existing services** – Increasing densities in already developed areas will help transit services operate more efficiently. In contrast, "leap frog" developments outside of urbanized areas make all modes less efficient by adding demand in areas that can not be competitively served by a full range of modes.
- ❁ **Encourage a local focus on the creation of affordable housing** - A key factor promoting development outside of the County is the lack of affordable housing near job sites, particularly in the high-tech industries. As these sectors continue to expand, workers are required to live farther and farther away, creating traffic demand on Alameda County roadways from outside the County. Encouraging the construction of affordable housing closer to job sites will help motivate families to reside in already developed areas, resulting in a more efficient transportation network.
- ❁ **Support other local policies that will allow Alameda County workers to live near their jobs** - Other factors influencing housing choice for Bay Areas workers include the quality of local schools and other amenities supporting a good quality of life. Housing choices often center on the needs of children, and Alameda County's communities must offer families the amenities they need at prices they can afford.

San
Leandro

Hayward

LOCAL ACTIONS

Public-Private Partnerships

Local jurisdictions are in the best position to encourage public-private partnerships that support the investments included in the Strategic Plan. The responsibility for an efficient and effective transportation network does not lie with the public sector alone. Public policy must reflect an on-going relationship with the business sector and its interest in maintaining a quality workforce.

- **Generate broad-based support for funding measures** - Passage of the local transportation sales tax extension and other funding measures requires the support of the business community and other interest groups. The broadest possible range of interest should be encouraged to participate in the process that develops and passes needed funding measures. Appropriate forums should be developed to ensure participation from groups that are not normally vocal in large public meetings.
- **Ensure that employers participate in Welfare to Work Mobility planning** - As communities face the challenge of helping aid recipients become permanent members of the workforce, they must work with local employers to ensure that workers' mobility needs are included in local and regional plans. Employer sponsored shuttles, carpools or vanpools are all potential transit resources, as is utilizing the employment site as an information resource for transportation needs.
- **Encourage employers to participate in the transportation system** - Some very specific transit needs may not be efficiently served by public transit agencies. Oakland's Broadway Shopper Shuttle, partially paid for by local businesses, is an example of a customized service designed to meet the specific needs of local businesses within a community. Businesses served by local public transit routes can provide fare support, either through Commuter Check or through other arrangements such as Santa Clara County's ECO Pass or LAVTA's Hacienda Pass program.

Other opportunities for employer involvement include offering incentives for carpool and vanpool programs, financial incentives/strategies and participation in the successful Alameda CMA Guaranteed Ride Home Program or other locally supported program.

LOCAL ACTIONS

Prioritize Local Projects that Support Corridor Wide Goals

Many of these projects may be included in corridor management plans funded in the Strategic Plan. Some projects may be pursued using funding sources outside of the Strategic Plan, and through arrangements with developers. Local jurisdictions are in the best position to identify these opportunities in their own communities and to prioritize projects that meet this important objective.

- **Support projects that make transit more efficient or encourage short trips on local road and transit networks** – Projects on the local roadway network that make transit more efficient or encourage making shorter trips on non-freeway facilities include:

- transit preferential treatments;
- bus bulbs and street amenities;
- signal improvements;
- intersection improvements; and
- the completion of local roadway links.

PLANNING AREA ACTIONS

Planning area efforts should be devoted to refining the list of corridor management projects and to developing “mini-corridor” plans that tailor the Strategic Plan’s strategies to local needs.

- ❁ **Refine Corridor Management Projects** – Corridor management strategies include local intersection improvements and other arterial enhancements, including signal interconnection projects. Additional projects provide incentives to use alternative modes, including bicycle and pedestrian projects, transit transfer centers and multi-modal center development. A list of potential projects is included in the Appendix to this plan.

Each of the four planning areas in Alameda County must agree on a list of corridor management projects supporting the goals of the County-Wide Plan. By achieving consensus on sub-corridor level management opportunities, strategies can be tailored to local conditions. While this Strategic Plan will not be the sole determinant of corridor management projects in the I-880 Corridor, the planning areas are encouraged to use this plan as a resource when identifying corridor management investments. These projects may include relatively simple solutions that emphasize coordination over capital requirements. *For example, neighboring jurisdictions with local signal interconnection projects on the same route may agree to interconnect their two systems to improve flow all along an arterial. Similar opportunities may be identified for all modes.*

- ❁ **Develop Mini-Corridor Plans that Support Corridor-wide Goals** – Combined with the need to develop consensus on corridor management projects in each of the planning areas, mini-corridor plans should be developed that refine the strategies developed for the corridor as a whole. Using the strategic principles and policies as a base, each planning area can develop investment priorities that support these strategies using all available funding sources. As small investments are combined into a sub-regional strategy, improvements can be realized before the larger and more complex projects are implemented.

- ❁ **Work Towards Full Implementation of AC Transit’s Comprehensive Service Plan (CSP) and its successor plans** – AC Transit has been implementing its Comprehensive Service Plan and other service improvements throughout the system for several years. Working with the jurisdictions in each planning area, AC Transit should be supported in their efforts to implement local and corridor-wide service improvements. In South County, for example, a Transportation Development Plan (TDP) is being completed and readied for implementation. It should be recognized that adding service requires a secure base of operating funds, and advocacy for transit operating funds should be a County-wide priority.

COUNTY-WIDE ACTIONS

Funding Advocacy

The ability to implement the strategic investments suggested in the Strategic Plan depends on developing new funding sources for both capital and operating needs. Only through a county-wide consensus can those sources be developed and regional policies influenced.

- ❶ **Strongly Support the Continuation of the Transportation Sales Tax** – The current ½ cent sales tax for transportation (Measure B) is set to expire in 2002. That local funding source has been responsible for extending traditional state and local funds for transportation projects in Alameda County, and especially in the I-880 corridor. Perhaps more importantly, local sales tax funds are a major contributor to both local maintenance projects and transit operating support. Without the extension of this tax, transit service cutbacks are inevitable.

The County is currently finalizing a 20-year expenditure plan. Strong county-wide and local support will be needed to pass the tax continuation measure, regardless of the method used to extend the tax.

The first step towards advocacy is achieving a full consensus on the projects and programs included in the Expenditure Plan. Consensus should be followed by full support of the plan and the sales tax measure which is the cornerstone of funding for the strategic plan.

- ❷ **Advocate for other new funding sources** – Several other new funding sources, described in the Strategic Plan, have the potential of bringing large amounts of new funds to the corridor for proposed capital projects. The County, through the CMA should advocate for the passage of both a regional gas tax, extension of the seismic surcharge on Bay Area bridges and other potential sources, including State-wide bonds.

While all funding programs will provide some potential benefit to the corridor, the County is encouraged to advocate for making these sources as flexible as possible. *For example, a bridge toll extension has the potential to generate about \$130 million per year on the region's six toll bridges. Those funds will not be fully useful in Alameda County if they can only be spent on a limited range of projects.*

In supporting funding programs, the County should stress the need to support all modes, meeting both capital and operating needs.

- ❸ **Seek new opportunities for transit operating funds to maintain and expand services** – Several of the priority projects in the Strategic Plan require operating funds to be identified for services to be started or maintained. Sustainable funding is needed to operate and expand the ACE Commuter Service, and a South Bay/South County rail connection, whether designed as an interim solution or a long term link in the transportation network. New service in the Dumbarton corridor and AC Transit's service expansion similarly require the identification of operating funds.

Even existing services require expanded operating funds to ensure sustainability. AC Transit has recently restored a portion of the night and weekend service hours previously removed for budgetary reasons. While not all of those services may be justified based on productivity and other goals of the agency, a comprehensive response to transit needs is not possible without securing funds for an expanded AC Transit network.

COUNTY-WIDE ACTIONS

Seek Mobility for All County Residents

The I-880 Corridor operates 24-hours per day, every day. Corridor investment must consider everyone using the corridor, including those who do not travel in traditional peak periods and those without autos.

- **Support a County-wide Welfare to Work Mobility Strategy** – Long commute distances, even within a single county are common for all types of employees. The need for innovative transportation alternatives is even more critical for low income and newly employed workers who are often working non-traditional work hours and days. Alternative mode services focused on the productive “peak period commute” neglect the growing sector of the economy working outside of these hours – commuting in the opposite direction of the traditional peak. A County-wide emphasis on welfare-to-work program mobility will improve mobility for all residents in the County.
- **Stay Abreast of Commute Pattern Changes and Prepare to Respond to Change** – Over the past decade, commute periods have gotten longer, commute directions have changed and routes that had been relatively uncongested just a decade ago are now showing up on the “top 10” list of congested locations. The County, and the CMA in particular, must be engaged in an on-going study of such changes in the County and regional commute patterns, and must develop alternatives that respond to those changes before gridlock occurs.
- **Find new incentives for alternative modes** – The CMA has already initiated several pilot projects that demonstrate how a small investment can have a significant impact on mode choice. The Guaranteed Ride Home program had, in its first year, a nine percent mode shift impact on the member employees. A pilot program that terminated in 1997 provided small monetary incentives to use alternative modes. Both programs were (and in the case of GRH, continue to be) very successful. The CMA should continue to identify supportive programs that further the strategic goals of the plan, increasing the mode share for alternative modes.

Incorporate Corridor Strategic Planning in All County-wide Efforts

COUNTY-WIDE ACTIONS

The I-880 Corridor is a critical link in the County's transportation system. Strategies developed in this plan must now be incorporated into all county-wide planning to ensure their success.

- **Consider the findings of the I-880 Strategic Plan in County-wide Plan updates** – The investment list from the Strategic Plan may result in changes in the County-wide Plan priorities. Strategies adopted for this corridor should be considered for expansion into other corridors.
- **Develop strategies for other corridors that are consistent with the I-880 plan** – The transportation network in Alameda County is a complex system of routes. Changes on one route or corridor will have impacts in other corridors. Strategies need to be applied consistently, or adjusted to adapt to local conditions. The findings of the I-880 Strategic Plan should be considered when developing strategies for I-680 (currently underway) and other corridors in Alameda County.
- **Develop County-wide investment priorities that consider the needs of the corridor** – while the investment plan suggested for the I-880 corridor is not prioritized in any way, some reasonable priorities can be developed that could be applied to other projects in the region. Priority is recommended for projects that:
 - 1) **Meet the requirements of a deficiency plan.** Projects identified in any approved deficiency plan within the corridor would have a high priority for funding.
 - 2) **Are ready for implementation and can create an early sense of improvement in the corridor.** This would include projects falling under the Corridor Management Plan, as well as other fully funded projects.
 - 3) **Best address the overall vision for the corridor as described in the introduction to this plan.** This would include both bus and rail transit improvements, maintaining and expanding links in critical areas, providing relief to I-238 and other related projects.



REGIONAL ACTIONS

In order to ensure that mobility extends beyond county borders, Alameda County must work cooperatively with its neighbors to realize solutions that improve the I-880 corridor.

- **Support non-traditional approaches such as value pricing, congestion pricing and other strategies that discourage peak period congestion.** County and regional agencies should be encouraged to continue evaluating new strategies that discourage peak period travel. It is important to note that the peak period continues to expand, limiting the number of uncongested hours available for "shifting demand"; however, these strategies may still have merit for relieving congestion in the heaviest part of the peak commuter period.
- **Support projects that provide congestion relief across county lines.** Working with partners in other counties offers the best opportunity for implementing regional transit and other transportation solutions that cross county lines. Solutions could include both rail and express bus options. Opportunities may include working with the San Joaquin Rail Authority on ACE commuter rail issues, with VTA on BART and commuter rail options to Santa Clara County and with an appropriate partner in San Mateo County to evaluate Dumbarton bus and rail issues. Similarly, San Joaquin, Santa Clara and San Mateo Counties all have cooperative roles in developing roadway projects that cross county lines to ensure that "competing" projects in each county are not at cross purposes. Counties must develop regional strategies that enhance the contribution of each participant.

THE I-880

STRATEGIC IMPLEMENTATION PLAN

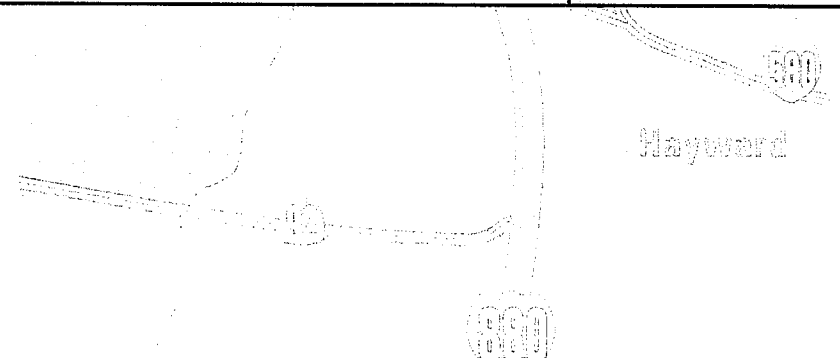
The strategies, policies and projects outlined in this plan must now be translated into specific implementation actions. To achieve the goals of the plan, the CMA and each of its partner agencies must work together. The following outlines the "next steps" in achieving the vision for the corridor, including the lead agency responsible for implementation. Other agencies may be involved in implementation in a supporting role. These actions include the next steps for implementation of the capital projects outlined in the Strategic Plan, and also include the implementation of related strategies and policies necessary for achieving the strategic vision for the corridor. The implementation actions described below are characterized by the strategic policy they address. Actions are not in priority order.

Maintenance and Rehabilitation of the Existing System

Action (Not Prioritized)	Management Responsibility
1. Secure funding for local roadway maintenance projects. (MTS Projects assumed to be fully funded)	CMA, cities
2. Maintain all roadway and transit facilities and rolling stock systems to current standards.	Caltrans
3. Secure funding for and complete seismic upgrades of all transportation structures in the corridor.	BART, Caltrans

Restoration and Enhancement of Bus Transit Services

Action (Not Prioritized)	Management Responsibility
1. Identify and secure operating funds necessary to restore appropriate levels of transit service throughout the corridor.	AC Transit, CMA, MTC
2. Work with local jurisdictions to design appropriate enhancements to existing bus services and secure funding for their implementation.	AC Transit, Union City Transit



STRATEGIC IMPLEMENTATION PLAN

Management of the Existing Transportation System	
Action (Not Prioritized)	Management Responsibility
1. Consider limiting freeway road work to night hours.	Caltrans
2. Encourage changes in work rules and other measures that will reduce the impacts of port freight movements on peak period congestion.	Port of Oakland
3. Develop quality 24-hour truck stops and container storage areas to facilitate freight movement, especially during night-time hours.	Cities, CMA, Port of Oakland
4. Identify and implement strategies to accommodate auto and truck traffic on I-880 (e.g., improving the balance of utilization between I-580 and I-880, through enhanced traveler information).	Caltrans, CMA, MTC
5. Complete the PSR and secure funding for the I-880 ramp improvement projects at Broadway/Jackson and 42nd and High Streets.	Caltrans, City of Oakland
6. Identify and seek funding for projects on key arterials including I-880 Beautification, the Webster-Posey Tubes, High Street, Oakport Road, Washington Avenue, Dyer Road, Industrial Parkway and Alvarado Boulevard.	Planning Areas, CMA and Affected Cities.
7. Identify arterial corridors that are appropriate for "key bus route" implementation and secure funds for service improvements.	AC Transit, CMA, and Affected Cities
8. Implement programs such as Guaranteed Ride Home , and other strategies intended to encourage the use of modes other than single occupant auto use.	CMA, MTC
9. Implement local land use decisions that support the corridor Strategic Plan.	Cities, Alameda County
10. Modify the County's Long Range Transportation Plan and local plans as necessary to reflect the strategies developed in the Strategic Plan.	CMA, Cities, and Alameda County

STRATEGIC IMPLEMENTATION PLAN

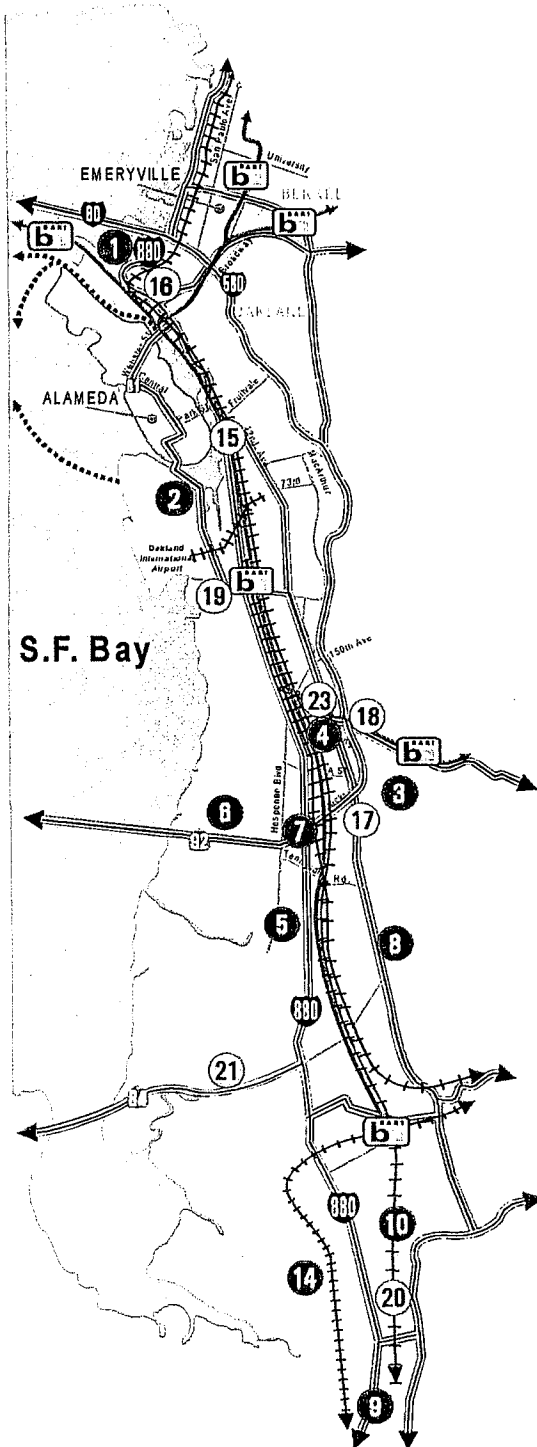
Strategic Expansion	
Action (Not Prioritized)	Management Responsibility
1. Secure funding for the expansion of I-238 to six lanes (3 in each direction).	Caltrans, CMA
2. Complete an operational study of I-238 to develop a policy regarding future expansions (<i>beyond three lanes in each direction</i>).	Caltrans, CMA
3. Complete the EIR for the BART-Oakland Airport Connector project. Select appropriate mode or technology for the project and finalize alignment and station stops.	BART, Port of Oakland
4. Develop an express bus plan for services within the corridor.	AC Transit
5. Identify short- and long-range opportunities for improved transit service to Santa Clara County including development of an implementation plan, a funding plan and an interjurisdictional partnership.	BART, MTC, Cities of Fremont and San Jose, Santa Clara VTA, CMA, AC Transit
6. Work with Santa Clara County partners to evaluate short term opportunities for improving transit service between Southern Alameda County and Santa Clara County.	BART, AC Transit, Santa Clara VTA, CMA



STRATEGIC IMPLEMENTATION PLAN

Transportation Operations Advocacy

Action (Not Prioritized)	Responsible Lead Agency
1. Secure funding for the continuation and expansion of the ACE Commuter Rail service	CMA, VTA, San Joaquin Regional Rail Authority
2. Identify funding and an appropriate operating agency for transit service improvements in the Dumbarton Corridor.	CMA, Dumbarton Consortium Members
3. Maximize the funds available to maintain and enhance transit services in the corridor. Advocate for new and expanded funding sources that maximize flexibility for funding local and regional needs, including extension of the transportation sales tax, and implementation of new gas taxes and proposed State Bonds.	CMA, MTC
4. Complete and enhance the Traffic Operations System (TOS)	Caltrans
5. Maintain and expand the freeway service patrol system.	MTC, SAFE
6. Identify projects that enhance roadway safety and reliability, both on the highway and local roadway systems.	Planning Areas



I-880 CORRIDOR STRATEGIC PLAN

Baseline & Strategic Investment Plan Projects

(Not shown in priority order)

Proj. #	Category	Project Name Location Cost (in \$M)
1	Baseline	Port of Oakland Joint Intermodal Terminal (Oakland) (\$31.0)
2	Baseline	Airport Roadway (Oakland) (\$97.0)
3	Baseline	SR238 Hayward Bypass (Four-Lane Expressway, Stage 1) (\$126.4)
4	Baseline	I-238 Freeway Widening (between I-880 & I-580) (\$36.9)
5	Baseline	Industrial Parkway Southwest Widening (Hayward) (\$0.6)
6	Baseline	Widen SR92 (S. Mateo Bridge Approach, Hayward) (\$176.0)
7	Baseline	SR92/I-880 Interchange Reconstruction (Hayward) (\$108.0)
8	Baseline	SR 238/Mission Blvd Widening Between Hayward Bypass & I-680 (Selected locations: Fremont, Union City, Hayward) (\$29.5)
9	Baseline	I-880 Widening between Mission Blvd & Santa Clara County Line (Fremont) (\$90.0)
10	Baseline	Rail Grade Separations (Fremont) (\$35.7)
11	Baseline	Advanced Automatic Train Control (AATC)* (\$19.5)
12	Baseline	Regional Rideshare Program* (\$3.6)
13	Baseline	Automated Fare Collection/Translink* (\$38.7)
14	Baseline	Intercity Passenger Rail (Capitol Corridor) (\$19.9)
15	Strategic	I-880 Ramp Modernization 42 nd /High (Oakland) (\$10.0)
16	Strategic	I-880 Broadway/Jackson Ramps (Oakland) (\$47.9)
	Strategic	SR-238 Hayward Bypass Stages II/III (\$76.8) (Note: The I-880 Corridor Steering Committee determined that environmental review on the SR-238 Hayward Bypass project should continue and that this project should be included in the Strategic Plan "without prejudice.")
18	Strategic	WB I-580 to SB 238 Direct Connector (\$7.8)
19	Strategic	BART-Oakland Airport Connector (\$130.0)
20	Strategic	South County-Santa Clara Rail Connection (BART-Warm Spring Extension) (\$100.0)
21	Strategic	Express Bus Services/Dumbarton Corridor Improvement (\$9.6) (Note: rail solution would require additional funding)
22	Strategic	AC Transit Key Bus Routes* (\$68.0)
23	Strategic	I-238 Expansion to 6 lanes (\$66.0)
various	Strategic	Corridor Management Plan Projects* (\$20.0)

* Project not shown on map

Note: Costs shown represent the I-880 Corridor portion of the project cost and do not represent total project cost in all cases.